

SND COLLEGE OF ENGINEERING AND RESEARCH CENTRE

Babhulgaon, Yeola, Maharashtra

Approved by AICTE & Govt. of Maharashtra

Affiliated to Savitribai Phule, Pune University, Pune

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**National Conference (Online) on Recent Trends in
Engineering, Technology & Management**

(NCRTEM-2K22)

26th - 27th May 2022

In Association With



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Editors

Dr. Pradeep M. Patil

Dr. S. P. Ahirrao

Dr. Harjitkumar U. Pawar

Dr. Harshal S. Rane

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Preface

Conference World and AR Research Publication is fast growing group of academicians in Engineering, Sciences and Management. AR Research Publication is also known for fast reply and zero error work. Conference world has organized a various conferences at renowned places namely Delhi University; New Delhi, Jawaharlal Nehru University; New Delhi, PHD Chamber of Commerce and Industry New Delhi, YMCA New Delhi, India International Centre New Delhi Sri Venkateswara college of Engineering and Technology, Andhra Pradesh, Dhananjay Mahadik Group of Institutions (BIMAT), Shivaji University, Maharashtra, Vedant Engineering Kota and many more places across the country.

We are very pleased to introduce the proceedings of the National Conference (Online) on Recent Trends in Engineering, Technology & Management (NCRTEM-2K22) As for previous conferences, the theme was the link between the information provided by conference world and the use made of this information in assessing structural integrity. These were the issues addressed by the papers presented at the conference. The level of interest in the subject matter of the conference was maintained from previous events and over 80 suitable papers were submitted for presentation at the conference.

Papers were well represented in the conference to arouse a high level of international interest. Three countries were represented in the final program from Europe, North America and Asia. In the event, the conference was highly successful. The presented papers maintained the high promise suggested by the written abstracts and the program was chaired in a professional and efficient way by the session chairmen who were selected for their international standing in the subject. The number of delegates was also highly gratifying, showing the high level of international interest in the subject. This is also indicated by the large number of countries, 02 represented by the delegates. This Proceeding provides the permanent record of what was presented. They indicate the state of development at the time of writing of all aspects of this important topic and will be invaluable to all workers in the field for that reason. Finally, it is appropriate that we record our thanks to our fellow members of the Technical Organizing Committee for encouraging participation from those areas. We are also indebted to those who served as chairmen, without their support, the conference could not have been the success that it was. We also acknowledge the authors themselves, without whose expert input there would have been no conference. Their efforts made a great contribution to its success.

About the Institute

Jagdamba Education Society's SND College of Engineering & Research Center, Yeola was established in the year 2006 with its focus on academic excellence. The Institute's learning experience is characterized by systematic methodology integrated with the team of dynamic faculties. The Institute excels in academics, co-curricular and extracurricular activities. It is approved by AICTE and affiliated to Savitribai Phule Pune University, Pune. The Institute also accredited by NAAC certified by ISO 9001:2015 and presently offers undergraduate and postgraduate courses with annual intake of 480 and 144 respectively.

Vision

To create multifaceted engineers ready to serve the nation and the world.

Mission

To use value based universal education of engineering and technology to develop the nation for global competitiveness and to bring harmony to mankind.

About the Conference

National Conference on Recent Trends in Engineering, Technology & Management (NCRTEM-2K22) is a global event organized at SND College of Engineering & Research Center, Yeola. This conference provides an international forum for researchers, developers, engineers and practitioners who are involved in real time projects that provide solutions to exchange their valuable ideas and showcase the ongoing works which may lead to path breaking foundations of the futuristic engineering. It accentuates indispensability of interdisciplinary and cross-linked thinking with respect of innovation and market opportunities. All the accepted papers will be published in International Journal with ISSN and Conference proceeding having ISBN.

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MESSAGE FROM PRESIDENT



It gives me immense pleasure that the SND College of Engineering & Research Center has organized National Conference (Online) on Recent Trends in Engineering, Technology & Management (NCRTEM-2K22), in association with International Association of Research and Developed Organization (IARDO) and Conference World. Ever since the inception of our Institute, we have been striving for excellence in various departments of Engineering and at the very same time marching forward with the mission of professional as well as technical development.

I believe in promoting events to be organized in SND which opens research and innovation avenues for students. This National Conference (Online) on Recent Trends in Engineering, Technology & Management is one such step towards motivating students and researchers. The conference greatly encourages graduate and Postgraduate students, research scholars and faculty to present innovative ideas and latest discoveries in the field of engineering and Technology. I would like to extend my gratitude towards Research and Development Cell and all staff who had done excellent job for the success of this conference. I take this opportunity to extend my best wishes to all the participants of this conference for their future endeavors and also aspire that more and more people opt for research and bring laurels to themselves and to the field of education.

Shri. Narendra B. Darade

*MLC Maharashtra State, Ex-Mahada Chairman,
President, Jagdamba Education Society, Yeola*

MESSAGE FROM EXECUTIVE DIRECTOR



At the outset, my appreciation and congratulations to SND College of Engineering & Research Center for successfully organizing National Conference (Online) on Recent Trends in Engineering, Technology & Management on 26 and 27th May 2022. Education in general and technical education in particular, must be relevant to rapidly changing needs of the society, industry and business houses. The educational environment must be dynamic and quickly adaptable, so that professionals are capable of shouldering all-encompassing global responsibilities. The conference brought together students, researchers and educators of varied domains to share their ideas, views and also to explore their technical abilities. I am confident that this event will be useful to researchers and academicians to enhance their knowledge on the research topics of their chosen field. I express my sincere thanks to all well-wishers for their valuable guidance and unstinted support, who have been directly or indirectly involved in organizing this conference. May you all always be in pursuit of Excellence.

Shri. Kishor B. Darade

*MLC Maharashtra State, (Teacher Constituency-Nashik)
President, Matoshri Education Society, Yeola*

MESSAGE FROM CAMPUS DIRECTOR



I am happy to note that SND College of Engineering & Research Center is organizing a National Conference (Online) on Recent Trends in Engineering, Technology & Management and going to release the proceeding during this occasion.

For past couple of years SND had been rendering Quality service in the field of Engineering Education and Management by providing excellent Infrastructure Facilities and the right team of well qualified staff. This makes SND to march towards confidently in this competitive era.

SND is playing its role well in training the "YOUTH" who are the National Asset and Future of India. In the coming Years SND will definitely craft thousands of successful Engineers, Entrepreneurs and Citizen to serve the Nation and Society. I take this opportunity to wish them all the very best in the walks of their career and life.

I appreciate the organizing committee for showing a keen interest in organizing a successful Conference and contributing new ideas and research findings. I wish them for their endeavours to spread knowledge.

I also express our whole hearted congratulations on this occasion to all the staff & students of SND College and wish the conference a grand Success.

Shri. Rupesh L. Darade

Director, Jagdamba Education Society, Yeola

MESSAGE FROM PRINCIPAL



Education is an instrument to enhance the capabilities of human beings to become knowledgeable, creative and good citizens which resulted in my urge to develop excellent educational facility. The objective of the Institute is to develop entrepreneurs and quality engineers with competence and character, to become extra ordinary in the present technological scenario of globalization, who will contribute to techno and socio-economical development of country. For this, the Institute has introduced various value-add and training programs conducted by industry experts.

I am extremely happy as principal of SND College of Engineering & Research Center, hosting National Conference (Online) on Recent Trends in Engineering, Technology & Management. Conferences of this magnitude help the graduate students and researchers to interact amongst themselves as well as experts in various areas.

I feel that, with presentations and interactions with experts; students are exposed to the emerging trends in respective domains and the research work being carried out.

I would like to congratulate participants for contributing to this conference. I appreciate conference conveners, faculty coordinators, staff members of SND College of Engineering & Research Center for organizing the National Conference (Online) on Recent Trends in Engineering, Technology & Management.

Dr. Pradeep M. Patil

Principal, SND College of Engineering & Research Center, Yeola

MESSAGE FROM DEAN ACADEMICS



On behalf of all the academic staff and students of SND College of Engineering & Research Center, I would like to extend our warmest welcome to all the participants on the occasion of the 2022, National Conference (Online) on Recent Trends in Engineering, Technology & Management (NCRTEM-2K22).

Just like the previous events in this SND College, I am confident that NCRTEM-2K22 will play an important role in encouraging activities in research and development of Engineering & Technology in India, and give an excellent opportunity to forge collaborations between research institutions both within the country and with international partners. The broad scope of this event, which includes both theoretical aspects of Engineering Technology & Management, applied experience of developing information systems, provides a unique meeting ground for researchers spanning the whole spectrum of our Institute. I hope that over the next two days, some fruitful collaboration can be established.

I also hope that the special attention devoted this year to the field of Engineering Technology & Management, including the very exciting area of wireless sensor networks, will ignite the development of applications in this area to address the various needs of Nation's development.

I would like to express my sincere gratitude to the distinguished invited speakers for their presence and contributions to the conference. I also thank all the program committee members for their efforts in ensuring a rigorous review process to select high quality papers.

Finally, I sincerely hope that all the participants will benefit from the technical contents of this conference, and wish you a very successful conference.

Dr. S. P. Ahirrao

Dean Academics, SND College of Engineering & Research Center, Yeola

MESSAGE FROM CONVENERERS



Dr. Harjtkumar U. Pawar



Dr. Harshal S. Rane

It is fair to conclude that the National Conference (Online) on Recent Trends in Engineering, Technology & Management (NCRTEM-2K22) held at SND College of Engineering & Research Center in association with the conference world on 26th and 27th May, 2022 was a great success. So many people have contributed in so many ways to turn this event into a smoothly running meeting with many very interesting presentations and a very good atmosphere for discussion and networking.

Management of SND College of Engineering & Research Center has helped in obtaining the necessary administrative approval for organizing the event in virtual mode. They supported in all possible manner to organize this conference. Our special thanks to Dr. Farhat Basir Khan, Chief Guest for his gracious presence at the event. We are thankful to our faculty colleagues and nonteaching staff members for their constant help and guidance that radiated a source of energy within us. We feel proud and thank you for making this event a successful one. We are also thankful for the enormous and high-quality support of all authors, reviewers and session chairs.

We wish that NCRTEM will keep on growing in coming years with more impact on the National Research Community.

All papers will undergo a double blind peer review process and the criteria for acceptance will be based on quality, originality, technical content and relevance.

Proceeding of the conference has been published with ISBN: 978-93-91535-37-7

National Conference (Online) on Recent Trends in Engineering, Technology & Management (NCRTEM-2K22) Organized by: SND College of Engineering & Research Center, Yeola through online as well as offline with the collaboration of IARDO and Conference World on **26th -27th May 2022**

Total 119 papers were received for the conference and 80 papers were shortlisted by the committee.

1. Accepted papers will be published in the peer reviewed international journals having ISSN & High Impact factor.
2. Selected Papers will be published in the UGC Care listed international journals having ISSN & High Impact factor.
3. Few very good quality Papers will be published in the Scopus indexed journal having ISSN & High Impact factor.
4. Author will get certificates, one for paper publication in Journal other for paper presentation in conference as per their choice
5. All the papers of the conference will be published in the conference proceeding with ISBN.
6. All the accepted and presented/Non Presented papers will be indexed in Google scholar & IDIIF.

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